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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DUNWOODY, AARON M

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,975

Applicant(s)

DELMER, DAN W.C.

Examiner

Aaron M Dunwoody

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-26 is/are pending in the application.
- 4a) Of the above claim(s) 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7 and 19-26 is/are rejected.
- 7) ☒ Claim(s) 2 and 8-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8,12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements (IDS) submitted 6/2/03 and 7/15/03 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

The drawings were received on 7/15/03. These drawings are approved.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title recites, "COUPLING FOR PIPE AND RELATED METHOD"; however, paper no. 6 recites, "Applicant hereby provisionally elects claims 1-15, 19 and 20...drawn to an apparatus". The non-elected invention is a method of assembling a plurality of pipe pieces together; therefore, only the elected invention should appear in the title.

The following title is suggested: Pipe coupling.

Claim Objections

Claims 1 and 19-22 are objected to because of the following informalities:

Regarding claims 1 and 19-22, where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 is rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 19, 20, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4865362, Holden.

In regards to claim 1, Holden discloses an apparatus for joining a plurality of pieces of pipe, including a first piece of pipe (11) and a second piece of pipe (11) each having a similar size and shape sidewall corrugation pattern along their lengths, a first female engagement structure (12 in Figure 3) formed from the sidewall corrugation pattern of the first piece of pipe and a male engagement structure (18) formed from the

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sidewall corrugation pattern of the second piece of pipe, the first female structure being temporarily deformed for receiving the male structure, the temporary deformation being both sufficiently large to permit the insertion of the male structure but also sufficiently small to ensure that material memory returns the first female structure toward its original non-deformed configuration with sufficient compressive force to grip the male structure and prevent its inadvertent removal from engagement with the first female structure.

In regards to claim 19, as best understood, Holden discloses a coupling system for coupling pipe segments to each other, each pipe segment having a similar size and shape sidewall corrugation pattern along its length, the pattern including a female end formed from the corrugation of the first pipe segment and a male end formed from the corrugation of a second pipe segment, at least one of the female and the male ends being temporarily deformed within its elastic limits to permit insertion of the male end into the female end, at least one of the temporarily deformed female and male end returning toward its original configuration following insertion of the male end into the female end, the female and male ends configured so that hoop stresses are generated by material memory of the deformed end to maintain desired engagement between the pipe segments.

In regards to claim 20, Holden discloses a pipe joint comprising:

first and second pieces of pipe having a generally uniform corrugated sidewall pattern along their lengths;

a female end of the first piece of pipe formed from the corrugated sidewall pattern by temporary expansion of the end via application of energy thereto, the

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expansion not exceeding the limits of the pipe material's ability to return substantially to its original shape and size; and a nonexpanded end of the second piece of pipe insertable within the female end of the first piece of pipe while the female end is expanded.

In regards to claim 24, Holden discloses a pipe having a similar size and shape sidewall corrugation pattern along its length, the pipe having a female engagement structure positioned at one end of the pipe, the engagement structure integrally formed from the sidewall corrugation pattern.

In regards to claim 25, Holden discloses the pipe further having a male engagement structure positioned at the opposite end of the pipe from the female engagement structure, each engagement structure integrally formed from the sidewall corrugation pattern.

Claims 1, 3, 5, 6, 19, 20, 24 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 5053097, Johansson et al.

In regards to claim 1, Johansson et al discloses an apparatus for joining a plurality of pieces of pipe, including a first piece of pipe (A) and a second piece of pipe (B) each having a similar size and shape sidewall corrugation pattern along their lengths, a first female engagement structure (13) formed from the sidewall corrugation pattern of the first piece of pipe and a male engagement structure (13) formed from the sidewall corrugation pattern of the second piece of pipe, the first female structure being temporarily deformed for receiving the male structure, the temporary deformation being

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both sufficiently large to permit the insertion of the male structure but also sufficiently small to ensure that material memory returns the first female structure toward its original non-deformed configuration with sufficient compressive force to grip the male structure and prevent its inadvertent removal from engagement with the first female structure.

In regards to claim 3, Johansson et al discloses the pipe sidewall corrugation pattern of each piece of pipe including a corrugated exterior surface (10) and an internal non-corrugated liner element (11).

In regards to claim 5, Johansson et al discloses the first piece of pipe including a second female engagement structure remote from the first female structure, the second female structure also being temporarily deformed to function as a female structure for receiving a corresponding non-deformed end of a third piece of pipe (not shown but implied), the third piece of pipe having a sidewall corrugation pattern along its length that is similar in size and shape to the sidewall corrugation pattern of the first and second pieces of pipe.

In regards to claim 6, Johansson et al discloses a sealing element (14) positioned between confronting surfaces of the first and second pieces of pipe to help provide a watertight seal therebetween.

In regards to claim 19, as best understood, Johansson et al discloses a coupling system for coupling pipe segments to each other, each pipe segment having a similar size and shape sidewall corrugation pattern along its length, the pattern including a female end formed from the corrugation of the first pipe segment and a male end formed from the corrugation of a second pipe segment, at least one of the female and

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the male ends being temporarily deformed within its elastic limits to permit insertion of the male end into the female end, at least one of the temporarily deformed female and male end returning toward its original configuration following insertion of the male end into the female end, the female and male ends configured so that hoop stresses are generated by material memory of the deformed end to maintain desired engagement between the pipe segments.

In regards to claim 20, Johansson et al discloses a pipe joint comprising:

first and second pieces of pipe having a generally uniform corrugated sidewall pattern along their lengths;

a female end of the first piece of pipe formed from the corrugated sidewall pattern by temporary expansion of the end via application of energy thereto, the expansion not exceeding the limits of the pipe material's ability to return substantially to its original shape and size; and a nonexpanded end of the second piece of pipe insertable within the female end of the first piece of pipe while the female end is expanded.

In regards to claim 24, Johansson et al discloses a pipe having a similar size and shape sidewall corrugation pattern along its length, the pipe having a female engagement structure positioned at one end of the pipe, the engagement structure integrally formed from the sidewall corrugation pattern.

In regards to claim 25, Johansson et al discloses the pipe further having a male engagement structure positioned at the opposite end of the pipe from the female

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engagement structure, each engagement structure integrally formed from the sidewall corrugation pattern.

In regards to claim 26, Johansson et al discloses the pipe further having a second female engagement structure positioned at the opposite end of the pipe from the first female engagement structure, each engagement structure integrally formed from the sidewall corrugation pattern.

Claims 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4875714, Lee.

In regards to claims 21, Lee discloses a coupling system for comprising: a female end of a first pipe segment (12) and a male end of a second pipe segment (14), at least one of the first and second pipe segments having a tapered leading edge (36) adapted to generally confront the other pipe segment along a tapered mating surface upon coupling of the pipe segments to each other, at least one of the female and the male ends capable of being temporarily deformed within its elastic limits to permit insertion of the male end into the female end, at least one of the temporarily deformed female and the male ends returning toward its original configuration following insertion of the male end into the female end, the female end and male end configured so that material memory facilitates a substantially confronting relationship of the tapered surfaces.

In regards to claim 22, Lee discloses a coupling system comprising: a female end of a first pipe segment and a male end of a second pipe segment, the male end having a substantially non-horizontal outer surface when viewed in lengthwise cross-section,

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the outer surface adapted to substantially engage the other pipe segment upon coupling of the pipe segments, at least one of the female and the male ends capable of being temporarily deformed within its elastic limits to permit insertion of the male end into the female end, at least one of the temporarily deformed female and the male ends returning toward its original configuration following insertion of the male end into the female end, the female end and male end configured so that engagement of their confronting surfaces is facilitated by material memory.

In regards to claim 23, Lee discloses a sealing means (50) acting between the substantially non-horizontal confronting surfaces.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansson et al in view of US patent 3784235, Kessler et al.

In regards to claim 7, Johansson et al discloses the claimed invention except for an adhesive material acting between confronting surfaces of the first and second pieces of pipe. Kessler et al teaches an adhesive material (40) acting between confronting surfaces of the first and second pieces of pipe (10, 12) to provide a better connection (col. 4, lines 44-49). As Kessler et al relates to pipe couplings utilizing both an adhesive tape and mechanical joint connection, it would have been obvious to one having

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ordinary skill in the art at the time the invention was made to provide an adhesive material acting between confronting surfaces of the first and second pieces of pipe to provide a better connection, as taught by Kessler et al.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 5-7 and 19-26 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 2 and 8-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is (703) 306-3436. The examiner can normally be reached on Monday - Friday between 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

.amd


Lynne H. Browne
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